AirMagnet Academy

AM-130 WLAN Troubleshooting

Course Objectives & Outline:

Audience:	Experienced networking professionals
Duration:	1 Day Classroom
Hands-on Labs:	No, Case Studies Review

Prerequisites:

This is a high level course and students should have a solid understanding of WLAN concepts including:

- Wi-Fi certified devices
- IEEE 802.11 modulations
- RF concepts
- WLAN performance considerations

Who is the course for?

The AM-130 WLAN Troubleshooting course is designed for AirMagnet Resellers, end users and installation contractors who plan to use AirMagnet Survey Pro, WiFi Analyzer, and Spectrum XT to trouble shoot WLAN network issues.

What topics this course covers?

The course will show the students the best practice processes of WLAN analysis. Students will learn the correct methodology for using AirMagnet products to effectively diagnose WLAN problem points.

The course will examine the 8 key stages of a successful WLAN analysis:

- Understanding the nature of the problem.
- Defining a troubleshooting strategy
- Layer 1 considerations

- Layer 1 analysis
- Layer 2 considerations
- Layer 2 analysis
- Symptoms of common problems
- Reporting

Upon completion of this course, students will be able to:
- Determine the nature of WLAN problems
- Identify the key steps of an analysis plan
- Describe the characteristics of Layer 1 analysis
- Describe the characteristics of Layer 2 analysis
- Illustrate the symptoms of common WLAN problems

Course Outline:

Chapter 1: Defining Troubleshooting Strategy

-Understanding WLAN Theory
-Understanding WLAN Devices
    -Frequencies
    -Spatial Streams
    -QoS
    -Power
    -WLAN Design Infrastructure
-Defining what is normal
-Defining what the problem

Chapter 2: Layer 1 Considerations

-RF Fundamentals
-802.11 Modulation
-PLCP Headers
-Layer 1 Analysis
    -Planning the analysis
    -Layer 1 analysis with Spectrum XT
    -Layer 1 analysis with Survey PRO

Chapter 3: Layer 2 Considerations

-Understanding frame delivery
-Frame consideration – DCF
-QoS consideration – EDCA
-802.11n considerations
-Layer 2 Analysis
    -Planning the analysis process
    -Layer 2 analysis with WiFi Analyzer
    -Layer 2 analysis with Survey PRO

Chapter 4: Common Problems Analysis

-Hidden Nodes
-Near/Far problem
-Adjacent channel interference
-Multipath
-Reporting modules

Chapter 5: Case Studies Analysis Exercise

-Video clips
-Case studies